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ABSTRACT

This study compares the effects of human capital variables (education, training, etc.) and labor market variables (location, transportation, industry type) in influencing the employment success among a selected group of Comprehensive Employment and Training Act (CETA) trainees. Employment success was defined by initial wage rates of employment and six-month wage rates of the selected population (135 black women in a Kansas City, Kansas, CETA program). The study used a path model to identify and analyze the relationship of human capital and labor market variables to employment. The results of the study suggest that education has little influence on employment access or employment success. The significant inference is that education acts as a screening device to qualify persons for both training and employment. Education in the form of specific training for employment has little or no influence on providing persons access to the employment field for which such training was designed. Additional research is suggested in this area of education to employment relationships in order to produce relevant answers to social goals. (Author/KC)

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A PATH ANALYSIS OF VARIABLES ASSOCIATED WITH CETA TRAINING PROGRAM

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VITA

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ABSTRACT

The linkage of education to employment has traditionally been a concern of adult education. Through most of the history of adult education in this country, education has been a process of certification or credentialling. This study focuses on the relationship of education activities to employment access and success. Variables considered in this study were human capital variables and labor market variables.

The study utilized path model to identify and analyze the relationship of human capital and labor market variables to employment. The results of this study suggest that education has little influence on employment access or employment success. The significant inference is that education acts as a screening device to qualify persons for both training and employment. Education in the form of specific training for employment has little or no influence on providing persons access to the employment field for which such training was designed.

The purpose of this article is to compare the affects of human capital variables (education, training, etc.) and labor market variables (location, transportation, industry type) in influencing the employment success among a selected group of CETA trainees. Employment success, as herein discussed, is measured by initial wage rates as a result of employment and six month wage rates of the selected population.

The importance of this study is related to the fundamental issues in questioning research focus on improving education and training opportunities or focus on the structural employment barriers to economic access. Education and training opportunities are defined herein as human capital variables, while structural variables are herein defined as demand variables associated with labor market. This study identified and analyzed the affect of human capital and structural variables utilizing a path model.

The Comprehensive Employment and Training Act of 1973 (CETA) provides for a decentralized system of federal, state, and local programs designed to provide job training and employment opportunities for economically disadvantaged, underemployed, and unemployed persons. The population under the study was a CETA training center population. One primary question is whether these activities lead to maximmum employment opportunities and enhance

the self-sufficiency of participants. The basic assumption in the CETA effort is that the type of training provided can overcome employment barriers which help create or maintain poverty. The concern is whether CETA training affects the specific barriers which impede the success of previously unemployed, underemployed, and disadvantaged persons who have received CETA training.

Rationale for the Study

Eli Ginzberg (6) states that there are four conditions which characterize the employment problems of CETA-eligible populations: unemployment, underemployment, indadequate training, or personal barriers or structural unemployment.

> Structural unemployment may exist for any one of a number of reasons: because the unemployed don't know about the jobs that are available; because they live too far away from where the jobs are; because they lack the skills, abilities or academic credentials required by employers; because the wages offered by employers are lower than the unemployed are willing or able (because of minimum wage laws, union contracts, etc.) to accept, and so on. (13: 183)

Peter Doeringer and Michael Piore (4) explain that CETA programs are dysfunctional because the programs do not explicitly recognize the existence of primary and secondary labor markets. They postulate that the secondary labor market is characterized by low wages, high labor turnover, low fringe benefits and little chance for upward advancement. Doeringer and Piore further state that the key barrier to occupational mobility among the disadvantaged involves lack of access to the primary market. Much of the research suggests that education and training programs for the disadvantaged and hard-to-employ succeed, mainly, in recirculating disadvantaged persons among the very jobs which are responsible for their poverty. This barrier is, for the sake of discussion, considered the "market" barrier to employment.

Theodore Schultz (11) has recognized the high correlation between levels or investments in education and stable employability patterns. Schultz has stated that professionals receive greater employment benefits than service workers. He hypothesizes that when a given group receives more educational investments, then the group's participation in the labor force and its benefits will increase. The greater the investment in education or training of individuals, the greater the benefits received.

The Comprehensive Employment and Training Act of 1973 implicitly follows Schultz's hypothesis, that the specific purpose of CETA is to provide "job training and employment opportunities to the economically disadvantaged, unemployed, and underemployed persons" with the expected outcomes, that the services and training afforded under the act will lead to unsubsidized employment in the private sector, i.e., labor force participation. Essentially, the premise of the CETA programs is founded on the economic theory which relates investment in human potential to increases in human productivity. For example, the services offered by CETA reflect a societal investment in human potential resulting in an increase in human capital in the form of unsubsidized employment in the private sector. The investment brings anticipated returns in the form of tax revenues from income.

The human capital economic theory assumes a competitive labor market, a mobile labor supply and adequate labor market information systems. The theory does not readily acknowledge certain barriers between labor markets or unequal opportunities among labor. For example, it is assumed that more skilled workers find more stable employment, whereas less-skilled workers are less likely to find stable employment. High unemployment rates are considered indicative of deficiencies in the quality of the general labor force. Elimination of human

capital deficiencies presumably would result in the elimination of high unemployment rates.

However, the persistence of unemployment in spite of efforts to alleviate personal deficiencies of unemployed persons through CETA programs has caused researchers to question the removal of technical barriers to employment as a solution to the problem. Doeringer and Piore attribute high unemployment to market barriers (i.e., primary labor market demand).

The dual labor market theorists have argued that the human capital theory has proved to be sterile in its approach to resolving the issue of unemployment. They contend that the assumptions of the human capital theorists are invalid for the working poor because there are two distinct labor markets as opposed to a single competitive labor market. Dual labor market theorists state that the human capital investment model works well to explain the effects of education on professional groups and their returns in job stability, security, and working conditions. However, they contend that there are other constructs which operate to keep the working poor in poverty, preventing them from participating in the primary labor market. These constructs define the characteristics of the primary and the secondary labor markets.

Furthermore, Doeringer and Piore are not suprised to find that CETA programs have failed to realize the expected outcomes by not distinguishing between the primary and secondary labor markets. They also contend that the poor are often artificially confined to the secondary market:

> It is not the existence of secondary employment per se that constitutes the policy problem. . . . It is the permanent and involuntary confinement in the secondary market of workers with major family responsibilities that poses the problem of public policy. (4: 138)

That being the case, dual labor market theorists suggest that workers are already crowded into areas which maintain low wage structures and the secondary labor market structure.

Statement of Problem

The problem facing CETA programs can be defined in terms of the disagreement between the dual labor market and human capital theories. Should programs be directed at the supply of labor or should program efforts be directed at the demand for labor? Dual labor market theorists argue that education per se will not necessarily lead to increased participation in the labor market as hypothesized by human capital theorists.

Rather, increased participation in the labor force is a function of expanding labor markets. Until there is an expansion of job opportunities in the primary labor market, members of the secondary labor market will be confined to this market even if they have received educational programs designed to eliminate technical deficiencies. Improving the quality of the labor force results in a highly trained working class according to the dual market theory. But eliminating the deficiencies of the unemployed will not eliminate unemployment and initial employment success until labor markets are expanded.

This is in contrast with human capital theorists who expect elimination of technical deficiencies through education or training to result in decreased unemployment. Thus, studies need to be conducted to determine the relevance of the dualist economic theory in the placement and wage rates of trainees in manpower (CETA) programs that are based upon human capital economic theory. Further, one should examine whether the elimination of technical barriers, i.e., personal characteristics, education, geographic mobility, etc., will eliminate market barriers for the working poor.

Specific Questions

The purpose of this study is to determine the degree to which training for employment affects placement and mobility of

a selected population of CETA trainees. The study will focus on a selected sample of graduate trainees of an employment training center in an urban setting. The questions for research specifically address the variables which affect placement. The human capital variables, such as educational levels, training levels, past experiences and personal characteristics will be analyzed to determine their effect on placement and participation. In addition, the variables related to labor market structure will be analyzed to determine their effect on placement and wage rates over time.

The questions for research which will be considered in this study are: firstly, among a homogeneous sample of trainees consisting of black female inner city residents, are there variables which act as predictors of labor force placement and participation? That is, do human capital investments in the form of employment training result in employment placement and labor force participation? Secondly, do labor market barriers, such as secondary labor market employment, appreciably affect employment outcomes? An ancillary inquiry will be made relative to the types of placements and the industry classification to determine whether the characteristics of employment, i.e., the kind of jobs, act as a determinant of whether the kinds of employment and locations of such employment appreciably affect the

labor market success of employment training participants.

Previous Research

Personal Background as a Barrier to Employment

The literature is consistent in admitting that there are powerful variables which appear to perpetuate the poverty cycle. However, Lester Thurow (12) accounts for the poverty cycle in his appraisal that the causes of poverty have yet to be identified. The principal focus of research in this area has been mainly around education and the educational experiences of the disadvantaged.

The effect of education, as measured in years of schooling, has been the focus of research. This focus has resulted in a variety of studies on the quality of education, the duration of education, and the use of education as an effective screening device for employment or training. A review of this research suggests that education may not be a significant employment determinant. Randall Weiss (14) concludes that the employment barrier to blacks is a result of an economic system which provides opportunities to blacks without regard for their educational background. Ivar Berg (3) likewise found that little difference could be attributed to education within given employment categories. Bennett Harrison (7) reported that educational returns for blacks in the ghetto are negligible.

Educational Attainment Levels as a Barrier to Employment

Samuel Rosenberg's study (10), "The Dual Labor Market: Its Existence and Its Consequence," categorized employments using the criteria set forth by Peter Doeringer and Michael Piore. The Dictionary of Occupational Titles was used to identify occupations. Occupations classified as secondary labor market jobs were analyzed to specify the labor market characteristics and the labor market patterns. Rosenberg reported that blacks were disproportionately located in these secondary jobs. Education, as measured in years of schooling, and specific vocational education activities and formal education experiences were found to be a key determinant in whether the individual was likely to be employed in the primary or the secondary labor market. For blacks, Rosenberg reported that only post secondary, formal education appeared to be effective in providing access to primary labor market employments. Other post secondary educational activities, such as CETA, appeared to be ineffectual for blacks.

> Vocational training is seen to enhance a perons's chance of primary employment whereas many of the manpower programs of the sixties are seen to be ineffectual in this respect. (10: 101)

Bennett Harrison states that for blacks, the use of education is effective only when higher levels of formal education

are involved. A black with four years of college will have job opportunities similar to that of a white with four years of high school.

Job Type and Job Experience as a Barrier to Employment

Peter Doeringer, Michael Piore, and Bennett Harrison state that the unstable nature of the secondary labor market encourages unstable behavior patterns of secondary labor market workers. Robert Flanagan (5) adds to the support of the dual labor market hypothesis that behaviors of employees are formed in response to their environment:

> The results are not consistent with the views that blacks are inherently unstable employees, but for the younger cohort there is some evidence that blacks are assigned to relatively unstable jobs. (5: 24)

Paul Andrisani (1), in his study, "An Empirical Analysis of the Dual Labor Market," identified the human capital factors which affect employment and mobility as (1) formal training outside of schooling, (2) mental ability, (3) educational attainment level, (4) age, and (5) first job encounter. He also identified health status and geographic mobility as factors but determined in his analysis that the difficulty in measuring these variables made then unusable. Human capital variables represent the characteristics which determine the individual

differences among the sample. Deficiencies in human capital which are hypothesized to result in barriers to employment can only be measured within a framework which assesses these human capital factors. Andrisani states:

> Unfortunately, a comprehensive accounting of exactly what investments represent human capital formation is unavailable. Thus, some may go as far as to view even differences in child rearing and parental love and affection as conscious market decisions governing investment in human capital. In this study, the human capital factor embodies seven variables . . . (1: 39)

Likewise, Samuel Rosenberg and Robert Flanagan considered human capital variables, education and personal characteristics. Rosenberg distinguished the educational factor in terms of specific vocational education and general education. Specific vocational education was considered a measure of human capital and was measured in terms of the time required to learn a skill and to perform it adequately in an employment situation. General education was defined in terms of time periods, such as years of schooling. This breakdown follows closely the framework developed by Gary Becker (2), in which he proposes that general and specific training are complementary. The lack of investments in general education may result in the inability of per-

sons to qualify for specific training in an employment situation.

Samuel Rosenberg indicates that general education includes levels of formal and informal education. General education may be measured ability in verbal and mathematical skills. It is these levels of verbal and mathematical ability which assist persons in the performance of employment tasks. Of particular necessity, is the ability to follow written and verbal instructions.

Bennett Harrison considers the salary level, the working conditions, and the industrial characteristics to be key variables in the barriers to placement and employment rather than educational preparation. Harrison states that the job and the job characteristics must be considered in addition to the human capital factors.

METHODOLOGY

Introduction

The purpose of this study is to outline the methodology used to identify and analyze barriers which affect placement and wage rates over time of a selected sample of CETA trainees.

The study was conducted in Kansas City, Kansas. The training center provided training for persons considered to be disadvantaged, unemployed, or underemployed in accordance with CETA guidelines.

Rationale for the Selection of Subjects

Past studies have indicated that the affects of race and sex on employment are significant. The black females in this study control for the affects of race and sex. This group of subjects is considered to be that which would benefit most from the Manpower offering at Black Motivation Training Center.[1] The high demand for clerical skills in the general labor market makes it relatively probable that female trainees are more successfully placed.

Variables

There are four categories of human capital barriers examined in this study, personal characteristics: marital status, welfare status, transportation accessibility, age, and previous employment; education: years of schooling, standardized reading scores, and standardized mathematics scores; employment training: skill class (type of training), and days in training; attitudes: measures of tolerance for bureaucratic structure, attitudinal measures of attractions to employment, attitudinal measures of losses incurred by accepting employment, and attitudinal measures of perceived barriers to employment. There are also three types of labor market barriers. These are location of industry, the relationship of training to employment, and industry type.

Independent Variables

Human capital variables consist of:

		Symbol
I.	Personal Characteristics	
	a. Age	AG
	b. Marital status	MS
	c. Welfare status	WLF
	d. Transportation status	TR
	e. Previous employment	PE
II.	Educational Characteristics	
	a. Years of formal schooling	E
	b. Mental ability measures	
	1. math reasoning	M
	2. math computation	M
	3. verbal reasoning	R
	4. verbal comprehension	R
III.	Training Experiences	
	a. Skill class	SK
	b. Number of days in training	TD
IV.	Attitudinal Characteristics	
	a. Attitudinal measures	
	1. attractions to work	V1
	2. perceived losses of work	V2
	3. attitudes to authority	V3
	4. tolerance for bureaucratic structure	TB

Labor Market Characteristics consist of:

V.	Labor Market Factors	
	a. Location of employment	LC
	b. Industry type	INTP
	c. Relationship of training to placement	RL

Dependent Variables

I. Placement

   a. Employment
   b. Unemployment

II. Wage Rates

   a. Initial wage rates
   b. Six month wage rates

ANALYSIS

The initial phase of analysis considered measures among these categories. Variables were selected on the basis of their relevance to human capital and labor market theories. Some variables were omitted due to lack of relationship with the dependent variable. The selection of variables is treated at length in the appropriate section.

The population consisted of black females who had completed training. The population size was one hundred and thirty-five. The selection of this population exerted controls for race and sex. The population size of employed persons six months after training was eighty-five persons.

This study examined first, the determinants of placement and initial wage rates among a population of black female CETA trainees. From this population, those persons who were placed in employment situations were examined to identify the determi-

nants of six month tenure and wage rates.

Through multiple regression analysis, the determinants of initial placement, initial wage rate, and six month wage rates within each category were identified. These were then entered into an overall model to identify the best predictors of placement, initial wage rates, and six month wage rates from among the defined employment barriers.

The relationship among the categories of employment barriers considered here are depicted in Figure 1 (p. 28). The diagram represents the theoretical relationship of employment barriers to placement, expressed by the following equation.

$$\text{Placement} = PC + E + T + A + LC + RL + INTP \quad (1)$$

Where PC is a set of personal characteristic variables, E is a set of educational variables, T is a set of training variables, A is a set of attitudinal variables, LC is location of employment, RL is the relationship of training to employment and INTP is the industry type of employment.

The theoretical relationship of employment barriers to initial wage rates is expressed by the following equation.

$$\text{Initial wage rate} = PC + E + TR + A + RL + LC + INTP \quad (2)$$

Where PC is a set of personal characteristic variables, E is a set of educational variables, T is a set of training variables, A is a set of attitudinal variables, RL is the relationship of

training to employment, LC is the location of employment, and INTP is the industry type of employment.

The relationship of employment barriers to six month wage rates is expressed by the following equation.

Six month wage rate = $PC + E + T + A + WR_1 + RL + LC + INTP$ (3)

Where PC is a set of personal characteristic variables, E is a set of educational variables, T is a set of training variables, A is a set of attitudinal variables, WR_1 is the initial wage rate, RL is the relationship of training to employment, LC is the location of employment and INTP is the industry type of employment.

Placement

Human Capital Barriers

The first inquiry is concerned with personal characteristic variables which act as determinants to placement.

Placement = $TR + PE + WLF + AG + MS$

Where TR is transportation accessibility, PE is previous employment experience, WLF is welfare status, AG is age, and MS is marital status.

Table 1 (a) shows the regression results. It shows transportation accessibility significant to placement. The negative regression coefficient (-.310) indicates that automobile accessibility was related to placement.

The variables related to age, marital status, and previous experience were not related to placement, either in zero order correlations or regression. This might be expected since most of the population were young, unmarried, and with little previous job experience. These variables, therefore, had little discriminatory power.

Education

The second inquiry was concerned with educational variables which act as determinants to placement.

Placement = E + R + M

Where E is educational attainment level, R is Basic Occupational Literacy Test (BOLT) reading standardized scores (comprehension and verbal), and M is the BOLT mathematic standardized scores (computation and reasoning).

Table 1 (b) shows the regression results. The educational variables were not significantly related to placement. In the case of attainment level, this might be explained by the fact that most of the trainees were high school graduates and, therefore, the educational measurement did not discriminate. Lack of relationship between the education variables and placement may be due to a tendency of employers to use hiring criteria which stress skill related competencies, such as typing, machine operations or clerical procedures.

Training

The third inquiry is concerned with the training variables which act as determinants to placement.

Placement = TD + SK

Where TD is the number of days in training, SK is the skill class attended by the trainee.

The maximum number of days in training is sixty. Table 1 (c) shows the regression results. The number of days in training is significantly related to placement. The positive regression coefficient indicates that those who attended skill classes for the complete training period were more likely to be placed.

Attitudes

The fourth inquiry concerns attitudes toward work.

Placement = TB + V1 + V2 + V3

Where TB is the test for bureaucratic structure, V1 is the perceived attraction to work scale of the Vocational Opinion Index (VOI), V2 is the perceived losses as a result of employment scale of VOI, and V3 is the perceived barriers to employment of the VOI scale.

Table 1 (d) shows the regression results. The attitudinal measures were not significantly related to placement.

Labor Market

The fifth inquiry concerns labor market variables.

Placement = LC + RL + INTP

Where LC is the location of employment, RL is the relationship of training to employment, and INTP is the industry type of employment.

Table 1 (e) shows the regression results. The relationship of training variable is significant to placement. The relationship of training to employment was coded with low scores indicating utilization of skill training in employment. The high scores indicated no utilization. It should be noted that persons not placed were classified by the higher score. This artifically raises the correlation on placement. The significant relationship here indicates that placements occurred in related employments. This is discussed in later analyses.

(Insert Table 1 here)

Initial Wage Rates

The determinants of initial wage rates are theoretically related to human capital and dual labor theory. Low wage rates reflect marginal productivity levels. They are also indicative of secondary labor markets.

Personal Characteristics

The first question examined in this section involved the relationship of personal characteristics to entry wage levels.

Initial Wage Rate = MS + TR + PE + AG + WLF

Where MS is marital status, TR is transportation accessibility, PE is previous job experience, AG is age, and WLF is welfare status.

The regression results are shown in Table 2 (a). The variable marital status is significantly related to entry wage level. A high score on this variable indicated married and low scores indicated single or unmarried status.

The positive regression coefficient indicates that single and unmarried status were associated with low initial wage rate.

Education

The second inquiry was concerned with the relationship of educational variables to entry wage.

Initial Wage Rate = E + R + M

Where E is educational level, R is reading, and M is mathematics.

The regression results are shown in Table 2 (b). There were no significant relationships. It should be noted that correlations between initial wages and education variables are very low.

Training

The third inquiry is concerned with training variables.

Initial Wage Rate = SK + TD

Where SK is skill class, TD is number of days in training.

Table 2 (c) shows the regression results. There were not significant relationships. The low correlation between training variables and initial wage rate should be noted.

Attitudes

The fourth inquiry was the relationship of attitudinal measures to initial wage rates.

Initial Wage Rates = TB + V1 + V2 = V3

Where TB is tolerance for bureaucratic structure, V1 is perceived attractions toward work, V2 is perceived losses from work, and V3 is perceived barriers to work.

Table 2 (d) shows the regression results. The tolerance for bureaucratic structure is significantly related to initial wage rates. Low scores on this measure indicated a preference for low job structure. The negative regression coefficient suggests that low tolerance for job structure was related to high initial wage rates.

Labor Market

The fifth inquiry is concerned with labor market variables.

Initial Wage Rate = RL + LC + INTP

Where RL is the relationship of training to employment, LC is the location of employment, and INTP is industry type of employment.

Table 2 (e) shows the regression results. The relationship

of training to initial wage rates is significant. The positive regression coefficient suggests that training related employments are significantly associated with low initial wage rates.

(Insert Table 2 here)

Six Month Wage Rate

The determinants of six month wage rates were also examined. The employment barriers are theoretically considered to include the stability or instability of employment. The placement of persons as a result of training only suggests access to the labor market. The concern at this level was, what are the determinants at six month wage rates.

The following equation was tested.

Six Month Wage Rate = PC + E + T + A + RL + LC + INTP + WR_1

Where PC is a set of personal characteristic variables, E is a set of educational variables, T is a set of training variables, A is a set of attitudinal variables, RL is the relationship of training to employment, LC is the location of employment, INTP is the industry type of employment, and WR_1 is the initial wage level.

Personal Characteristics

The first inquiry was concerned with personal characteristic variables which act as determinants of six month wage rates.

Six Month Wage Rate = WR_1 + TR + PE + WLF + AG + MS

Where WR_1 is the initial wage level of employment, TR is transportation accessibility, PE is previous employment experience, WLF is the welfare status, AG is the age of the trainee, and MS is the marital status.

Table 3 (a) shows the regression results. Only the initial wage level was significantly related to six month wage rates.

Education

The second inquiry was concerned with educational variables which acted as determinants of six month wage rates.

Six Month Wage Rate = E + R + M

Where E is educational attainment level, R is the reading standardized scores, and M is the mathematics standardized scores.

The regression results are shown in Table 3 (b). Only the wage rate is significantly related to six month wage rate.

Training

The third inquiry was concerned with training variables. The following equation was tested.

Six Month Wage Rate = TD + SK

Where TD is the number of days in training, SK is the skill class.

The regression coefficients are shown in Table 3 (c). Only the initial wage rate is significantly related to six month wage rates.

Attitudes

The fourth inquiry was concerned with attitudinal measures toward work.

The following equation was tested.

Six Month Wage Rate = WR_1 + TB + V1 + V2 + V3

Where WR_1 is the initial wage rate, TB is the measure of tolerance for bureaucratic structure, V1 is attraction to work, V2 is losses as a result of employment, and V3 is the perceived barriers to work.

The regression results are shown in Table 3 (d). In addition to initial wage rates, perceived attractions to work are significantly related to six month wage rates. This variable was not significantly related to placement and will be discussed at length in a later section.

Labor Market

The fifth inquiry is concerned with the labor market variables.

The following equation was tested.

Six Month Wage Rate = WR_1 + LC + RL + INTP

Where WR_1 is initial wage rate, LC is location of employment, RL is relationship to training, and INTP is industry type.

The regression coefficient results are shown in Table 3 (e). The initial wage rate is significantly related to six month wage

rate.

(Insert Table 3 here)

Overall Model

The development of a model for path analysis was accomplished through combining the human capital and labor market variables. This was done for the dependent variables, placement, initial wage rates, and six month wage rates.

The model provided a basis for the interpretation of the final results. Figure 1 demonstrates the phases of analysis; Figure 2, the final path model and path coefficients.

Discussion

In order to identify the determinants of placement and wage rates, the significantly related variables from the preceding analysis were combined, as shown in Figure 2. These variables were then tested through regression analysis. The following equations were used in the path analysis:

Placement = WLF + TR + TD + RL + INTP,

Initial Wage Rate = MS + TB + RL, and

Six Month Wage Rate = WR_1 + V1

as shown in Figure 2 and Table 4.

Decomposition: The effect of significant variables on six month wage rates was as follows:

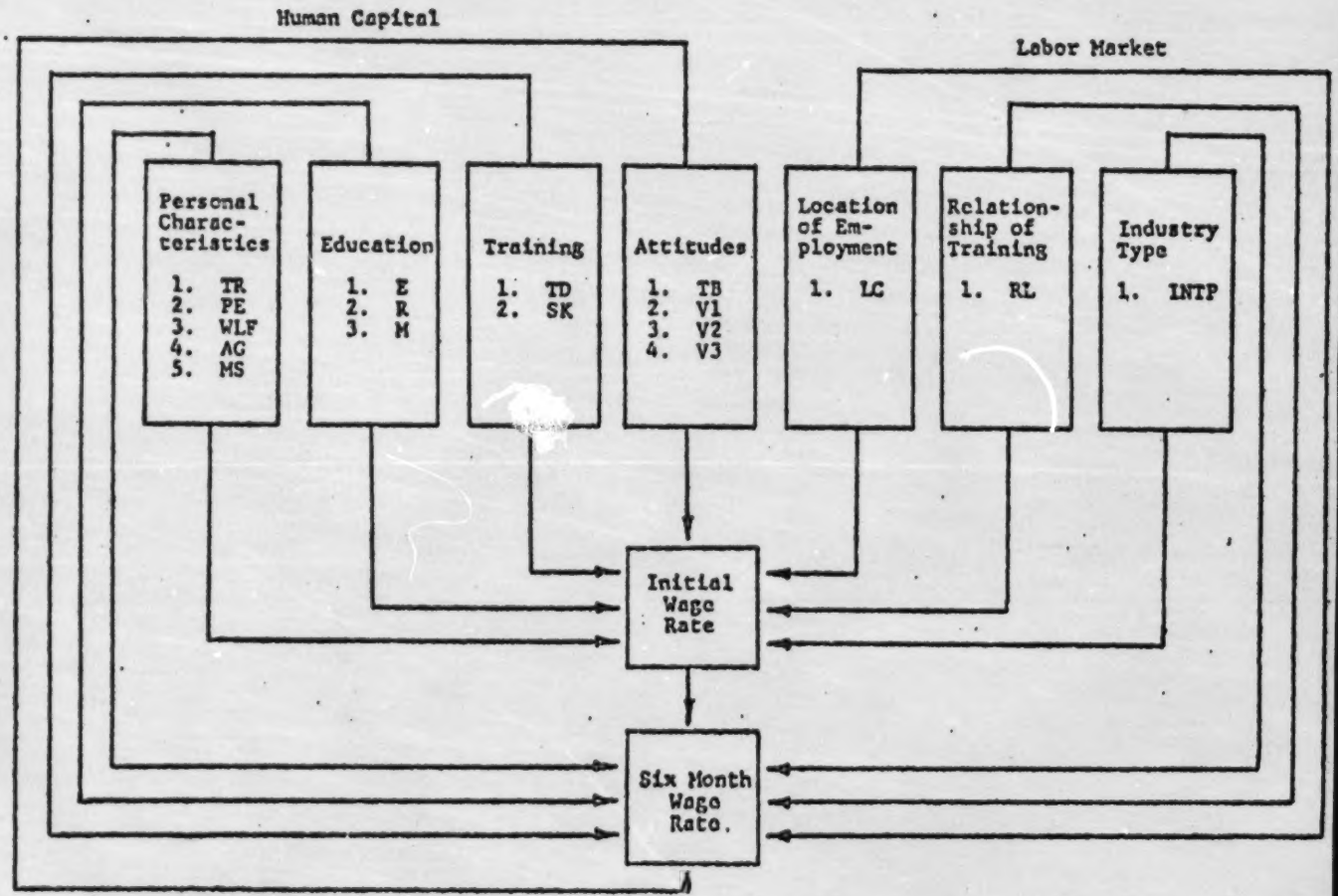

Fig. 1. Relationship of human capital variables, labor market variables, and initial wage rate to six month wage rate.

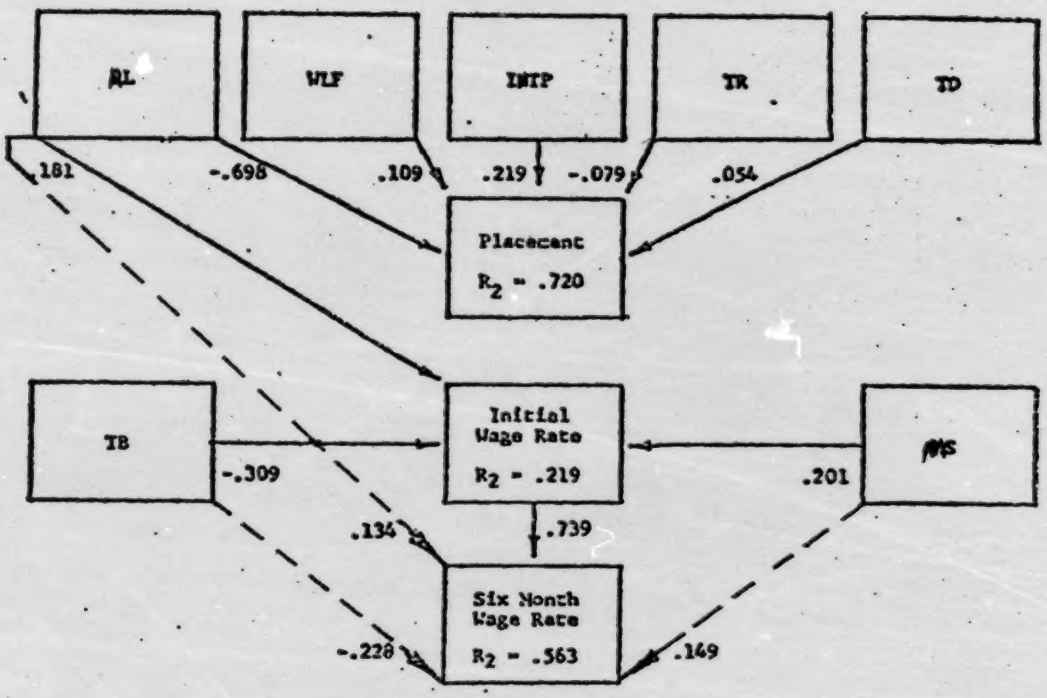

Fig. 2 Path model and path coefficients.

——— = Direct Effects

— — — = Indirect Effects

Direct effect on six month wage rates is initial wage rates, .739. Indirect effects on six month wage rate are relatedness to training, .134; tolerance for bureaucratic structure, .228; and marital status, .149.

(Insert Table 4 here)

This finding suggests that the relatedness to training of the job, the marital status of the trainee, and the tolerance for bureaucratic structure influenced the six month wage rate through their effects on the initial wage rate. These variables had no direct effect on the six month wage rate.

Summary of Findings

The effects of human capital and labor market variables are examined to determine the relevance of theory to the data. One of the most important findings was the lack of relationship of education to placement. These results suggest that persons were placed in jobs on the basis of other criteria.

(Insert Table 5 here)

Transportation: the significant relationship of transportation accessibility has several interpretations. First employers may select persons with automobile accessibility, considering that these persons might be more stable. It might also suggest that persons with automobiles make a greater effort to find employments, since they have the resources to travel to more interviews and markets both in the city and outside of the city.

Number of days in training: the relationship of days in training to placement proved to be inverse relationship to what had been expected. Those persons who completed training were individuals who met all the training expectations. The data indicated that early completion was not positively related to placement. This result has several interpretations. Employers may simply select persons on the basis that they fulfilled training requirements including the full number of days, whereby the number of training days may function as a selection criterion.

Relatedness of training to employment: the "relatedness of training" to the type of placement should be further explained before any interpretation can be attempted. This variable was defined by the type of institution where the persons was employed. For example, for persons whose training was in financial institutions, employment at a bank or an insurance company was considered to be "related to training." The majority of placements were related to training by this measure. However, a further analysis of these jobs by occupational category title, indicates that few persons may have had the opportunity to utilize their training.

The need for further research in this area is suggested whereby a better examination of utilization of training can be carried out. This would include an examination of the longitudinal affects of training. It would allow studies of the individuals'

experience in the labor market. The possible future relationship of training to promotions within the skill field could be examined. While the utilization of training during the first six months appears to be minimal, it is possible that training results are determined by a long-term effect rather than an immediate effect on wages.

Welfare: the relationship of welfare experience to placement may be interpreted to be a result of employer selection criteria. It is possible that welfare experience is perceived as reflecting work values which are considered to be deviant from the work ethic.

Placement Variable

As shown in Table 6 (a) some of the variables associated with placement reflected possible employer selection criteria. As such, these may be barriers to placement. For example, transportation accessibility does appear to enhance a person's options for entry into the labor market, giving access to suburban markets as well as urban markets. Completion of training does afford trainees the benefits of the institutional linkages with labor markets for placement. Similarly, certification of the individual's trainability is inferred. These variables may suggest the types of criteria used by employers.

(Insert Table 6 here)

The variables discussed here do not, in themselves, provide a direct measure of the underlying placement determinants. They do, however, offer suggestions for further study. An indepth examination of placement activities, which attempt to place the disadvantaged in employments, might identify the labor market linkages, the possible bias of program personnel, and the barriers to placement in jobs which utilize training experiences.

Initial Wage Rate Variable

The importance of initial wage rates is simply that training efforts focus on the individual. Training assumes that human capital investments are related to employment opportunities. The training attempts to manipulate human capital to produce persons who can, as a result of training, compete for employment. The assumption is that wages will reflect the training experience. However, some theorists contend that wages are not strongly related to training, but rather related to industry occupational types of jobs. Therefore, the industry occupational category is a key determinant of wages.

Furthermore, jobs which offer minimum wage levels act to maintain poverty levels. These employments are considered to have little opportunity for advancement since low wage employments, defined here as below $3.50 per hour,[2] do not use selection criteria related to education or training measures. Low wage employ-

ments are considered to have few channels within the employment institutions to assist the individual in raising his/her income level through promotional ladders or career ladders.

The determinants of wage rates were examined to identify the relationship of human capital and labor market variables. The wage rates varied from $4,560 to $12,672. The standard deviation was $1,584 and the median wage rate was $5,604.

As shown in Table 6 (b), the variables identified as being significantly related to initial wage rates were: preference for low job structure, marital status, and the "relatedness of training" to placement. These results offered several interpretations.

First, the preference for low job structure was related to higher initial wage rates. This result strongly suggests further research. The measures of tolerance for bureaucratic structure were taken during the training period. It would be important to have additional measures of tolerance for bureaucratic structure after employment. Such additional studies might help to ascertain the constancy of this attitudinal measure; whether the exposure to a work environment has any substantial effect on attitudes, and might provide greater ability to interpret the relationship of attitudes to wages.

Secondly, it is possible that attitudinal development should

be a function of training, especially if the relationship of initial wage rates is confirmed. It is also possible that such attitudes should be cultivated earlier in the educational experiences of the disadvantaged since it is associated with increased earnings. The importance of attitudes has been suggested, but clearly needs additional research in the identification of attitudes which relate to employment outcomes.

The relationship of relatedness of training to initial wage rates is also an interesting finding. As discussed earlier, this variable reflected the relationship of training to the type of employment institutions; but not directly to the utilization of training. The initial wage rates were significantly higher in those employments unrelated to training.

Six Month Wage Rates

The relationship of wages earned six months after training to human capital and labor market variables was examined. The variables related were perceived attractions to work and initial wage rates. Richard Perlman (9) states that the "willingness to work" is characteristic of low income groups. However, low income groups are considered to gain little from work, either from remuneration or in terms of job satisfaction. Perlman further indicates that among the poor, the desire and willingness to work is a decided attitudinal factor. In this study, the "perceived

attraction to work" is related to the higher wage levels and might suggest that persons who enter training with this attitude may find higher wage employments, given access to the labor market. It is also possible that persons who have perceived attractions to work will adapt, over time (here six months), to the labor market demands; thereby increasing their productivity levels. The studies on longitudinal data in this area are scanty. Further research is needed to identify the relationship of attitudes to wages over time, and variables such as human capital, labor market access, and promotions or internal labor market mobility.

As shown in Table 6 (c), the very strong relationship between initial wages and six month wages suggests that wages tend to remain stable during the first six months of placement. This result is supported by data such as the Wharton School of Finance Study (15), which suggests that black females tended to benefit most from CETA programs over other groups. However, these results offer no explanation of instability noted in other studies of CETA trainees.

Further research is strongly suggested which would compare experiences of various age cohorts with a population selected to indicate race and sex, and urban and rural populations. The research might focus on which groups gain access to the labor market and are sustained over time as a result of that training.

Conclusion

Training is an educational process which has been pioneered by various applications of adult education methodologies and technologies. The history of adult education has been and continues to be the education link to employment. Youth and young adult employment problems continue to be a major social crisis. Adult educators have contributed positively to some of the programmatic developments.

While government sponsored programs appear to be continuing, it is imperative that educators look closely at the myriad of social problems to identify the criteria by which program developments could occur. An understanding of the economic system and implications for program development is essential.

Education by its formal definition and by its technical or training definition must occur in a systematic fashion. For example, development of systems whereby certain educational functions are carried out by formal or traditional methods and where others are carried out in technical program arrangements could be developed. Such cooperative planning and development occurs only when a systems catalyst is in place.

Adult learning is appropriate to the employment program for several reasons. Malcolm Knowles' assumptions (8) of adult learning places them in a technological scenario. For example, the

learner is self directed, has a felt need, desires applied learning strategies and is knowledgeable of program criteria.

Adult education research in this area of education to employment relationships would serve to produce relevant answers to social goals.

TABLE 1

REGRESSION ANALYSIS RESULTS OF INDEPENDENT VARIABLES BY PLACEMENT

Independent Variables	Regression Coefficient	Zero Order Correlation
a. Personal Characteristics		
Transportation Accessibility	-.310***	-.321
Welfare Status	.192***	.217
Age	-.141	-.086
Marital Status	.057	.012
Previous Employment	.039	.013
	R_2 = .155	
b. Education Background		
Educational Level	-.063	-.037
Reading Level	.117	.142
Mathematics Level	.073	.130
	R_2 = .029	
c. Training Background		
Period of Training	.233***	.234
Type of Training	-.039	.044
	R_2 = .056	
d. Attitudinal Measures		
Perceived Losses as a Result of Employment	.064	.081
Perceived Attractions to Work	.083	.081
Tolerance for Bureaucratic Structure	-.079	-.079
Perceived Barriers to Employment	.044	.014
	R_2 = .019	
e. Labor Market Characteristics		
Relationship of Training to Employment	-.721***	.804
Industry Type	.231***	.446
Location of Employment	.078	.265
	R_2 = .703	

***Significant at .001 level.

TABLE 2

REGRESSION ANALYSIS RESULTS OF INDEPENDENT VARIABLES
BY INITIAL WAGE RATES

Independent Variable	Regression Coefficient	Zero Order Correlation
a. Personal Characteristics		
Marital Status	.308***	.283
Transportation Accessibility	-.142	-.185
Previous Employment	-.094	-.094
Age	.066	.127
Welfare Status	.050	.087
	R_2 = .119	
b. Educational Background		
Reading	.185	.155
Mathematics	-.169	-.103
Educational Levels	.076	.142
	R_2 = .057	
c. Training		
Skill Class	-.069	-.067
Number of Days in Training	-.034	-.029
	R_2 = .006	
d. Attitudes		
Tolerance for Bureaucratic Structure	-.398***	-.377
Perceived Attractions to Work	.053	.032
Perceived Losses from Work	-.127	-.011
Perceived Barriers to Work	.057	.151
	R_2 = .162	
e. Labor Market		
Relationship of Training to Employment	.224***	.248
Location of Employment	.158	.152
Industry Type of Employment	.157	.188
	R_2 = .109	

***Significant at .001 level.

TABLE 3

REGRESSION ANALYSIS RESULTS OF INDEPENDENT VARIABLES
BY SIX MONTH WAGE RATES

Independent Variables	Regression Coefficient	Zero Order Correlation
a. Personal Characteristics		
Initial Wage Rate	.722***	.743
Transportation Accessibility	-.089	-.233
Previous Employment Experience	.058	.011
Welfare Status	.058	.130
Age	.037	.134
Marital Status	--	--
	R_2 = .569	
b. Educational Background		
Initial Wage Rate	.762***	.743
Education Attainment Level	.091	.002
Reading Standardized Scores	.040	.099
Mathematics Standardized Scores	--	--
	R_2 = .56	
c. Training		
Initial Wage Rate	.743***	.743
Number of Days in Training	.015	-.007
Skill Class	--	--
	R_2 = .551	
d. Attitudes		
Initial Wage Rate	.720***	.743
Perceived Attractions to Work	.113**	.131
Tolerance for Bureaucratic Structure	-.085	-.342
Perceived Losses from Work	-.085	.056
Perceived Barriers to Employment	.052	.002
	R_2 = .577	
e. Labor Market		
Initial Wage Rate	.741***	.743
Location of Employment	-.097	.01
Relationship of Training to Employment	.056	.243
Industry Type of Employment	.016	.166
	R_2 = .562	

***Significant at .001 level.
**Significant at .05 level.

TABLE 4

INDIRECT EFFECTS IN PATH MODEL

Six Months Wage Rate	Indirect Effects (Beta Coefficient)
Relationship to Training	.134
Marital Status	.149
Tolerance for Bureaucratic Structure	.228

TABLE 5

DEPENDENT VARIABLES BY SIGNIFICANTLY
RELATED INDEPENDENT VARIABLES

Dependent Variable	Independent Variable
Placement	1. Transportation accessibility 2. Number of days in training 3. Relatedness of training 4. Welfare experience 5. Industry type
Initial wages	1. Preference for low job structure 2. Relatedness of training to placement 3. Marital Status
Six month wages	1. Perceived attraction to work 2. Initial wage rates

TABLE 6

PATH ANALYSIS VARIABLES SHOWN BY INDEPENDENT AND DEPENDENT VARIABLES

Independent Variables	Regression Coefficient	Zero Order Correlation
a. Human Capital and Labor Market to Placement		
Relationship of Training to Employment	-.698***	-.804
Industry Type of Employment	.219***	.446
Welfare Status	.109***	.217
Transportation Accessibility	-.079	-.321
Number of Days in Training	.054	.234
	R_2 = .720	
b. Human Capital and Labor Market to Initial Wage Rates		
Tolerance for Bureaucratic Structure	-.309***	-.377
Marital Status	.201***	.283
Relationship of Training to Employment	.181***	.248
	R_2 = .219	
c. Human Capital and Labor Market to Six Months		
Initial Wage Rates	.739***	.743
Perceived Attractions to Work	.108	.131
	R_2 = .563	

***Significant at .001 level.

FOOTNOTES

1. The black females are considered to reflect the best results in employment training. "Overall the available data tend to indicate that women have benefited more than men, and minorities a substantial amount, from the services provided through the entire range of Manpower Programs" (15).

2. The $3.50 per hour wage level is considered the low income level by the 1973 amendment to the Economic Stabilization Act.

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